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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,772	02/11/2002	Jaap Andre Haitsma	2167.004US1	5208
21186	7590	04/06/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH 121 S. 8TH STREET SUITE 1600 MINNEAPOLIS, MN 55402			KLIMACH, PAULA W	
			ART UNIT	PAPER NUMBER
			2135	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/073,772

Applicant(s)

HAITSMA ET AL.

Examiner

Paula W. Klimach

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/21, 25, 4/02</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

This office action is in response to amendment filed on 01/05/06. The amendment filed on 01/05/06 have been entered and made of record. Therefore, presently pending claims are 2-22.

### ***Response to Arguments***

Applicant's arguments filed 01/05/06 have been fully considered the new references and rejection below are in response to applicants arguments.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 2-13, 15-17, and 23** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 2, 13, 12, and 22-24 are directed to a method of generating/matching a hash signal to identify an information signal. The examiner asserts that the collection of information does not fall within the statutory classes listed in 35 USC 101.

*In reference to claim 2* the claim results in generating a hash signal. The recited “generation” means that the signal is originated since the hash is calculated as portrayed from page 7 line 19 to page 8 line 2. The product of the algorithm for calculating the hash is not a tangible result.

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*In reference to claim 13* lacks recitation of any tangible, physical articles or objects to enable the functionality of the method to be realized

*In reference to claim 23* does not appear to produce a tangible result, since the end result is a calculation that is possibly just a thought or a computation within a processor. The calculated difference is never used to measure quality as recited in the preamble or outputted to enable use in measuring quality.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claim 13** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no disclosure as to how to make and/or use “arrangement” and what is and isn’t.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claim 13** is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a

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gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The arrangement doesn't disclose a machine or manufacture.

**Claim 22** is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: Claim 22 does not appear to ever redirect a receiver of a signal to a website as recited in the preamble.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Vynne in view of Schneider (published by IEEE).

Vynne discloses a method and apparatus for watermarking digital video material by embedding a digital signature (abstract). The method consists of dividing the information signal into blocks (column 15 lines 20-53); extracting for each block a feature of the information signal within said block (column 20 lines 1-6); comparing the value of the extracted feature with a threshold (column 20 lines 9-11); generating for each block a hash bit indicating whether the value of the extracted feature is larger or smaller than said threshold (column 15 lines 34-53 in combination with column 15 lines 64-66); generating said hash value by combining said hash bits and said reliability information of the blocks having reliable hash bits for which the

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extracted feature differs substantially from said threshold, and unreliable bits for which the extracted feature does not differ substantially from said threshold (column 16 lines 30-64 in combination with column 16 lines 60-65).

Although Vynne teaches calculating the reliability information indicating whether the value of the extracted feature differs substantially from said threshold (column 16 lines 30-64 in combination with column 16 lines 60-65), Vynne does not expressly disclose determining the reliability information for each block.

Schneider discloses a system wherein a histogram, therefore a study of the image, is performed for each block (page 229 column 1 paragraph 3).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to calculate the reliability information for each block in the system of Vynne. One of ordinary skill in the art would have been motivated to do this because it would allow fine details to be studied for reliability information.

**Claims 2 and 9-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vynne in view of Schneider (published by IEEE) and further in view of Thomas (5,229,768).

*In reference to claims 2 and 13* Vynne discloses a method and apparatus for watermarking digital video material by embedding a digital signature (abstract). The method consists of the steps of dividing the information signal into frames computing a hash word for each frame (column 7 lines 44-46), computing a hash word for each frame (column 7 lines 46-59), and wherein the computing step comprises dividing each frame of the information signal

into one of bands or blocks (column 8 lines 37-39); calculating a property of the signal in each of said bands or blocks (column 12 lines 55-67).

However Vynne does not disclose comparing the properties with respective thresholds; generating respective bits of the hash word based on the results of the comparison; and generating the has signal as a string of successive hash words.

Schneider discloses a system to authenticate images presented wherein dividing the information signal into frames (Fig. 8) wherein dividing each frame of the information signal into disjoint blocks (page 229 section 5.0 column 1 lines 11-23); calculating a property of the signal in each of said blocks (page 229 section 5.0 column 1 lines 11-23); comparing the properties in the blocks with respective thresholds (page 228 section 5.0 column 2).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to calculate the hash value and compare the value to the threshold. One of ordinary skill in the art would have been motivated to do this because lossy compression introduces an amount of error as a result and the threshold set to take into account the error introduced.

Neither Vynne nor Schneider teach generating the hash word based on a result of a comparison.

Thomas discloses a system for data compression and decompression wherein after the comparison between the retrieved character and the associated character and then form a new hash string (Fig. 2).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to creating a new hash string after the comparison. One of ordinary skill in the art would have been motivated to do this because the new string is used to update the look up table.

*In reference to claim 9* wherein said information signal is divided into overlapping frames (Fig. 8).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to calculate the hash value and compare the value to the threshold. One of ordinary skill in the art would have been motivated to do this because lossy compression introduces an amount of error as a result and the threshold set to take into account the error introduced.

*In reference to claim 10*, wherein the information signal is a video signal, the frames of which are divided into blocks, the mean luminance of a block constituting the property of said block (Fig. 8 and section 5.0).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to calculate the hash value and compare the value to the threshold. One of ordinary skill in the art would have been motivated to do this because lossy compression introduces an amount of error as a result and the threshold set to take into account the error introduced.

*In reference to claim 11*, further comprising the step of using the inputs of said comparing steps to generate information, which is indicative of the reliability of the bits of the hash word (Fig. 8 second level hash).



At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to calculate the hash value and compare the value to the threshold. One of ordinary skill in the art would have been motivated to do this because lossy compression introduces an amount of error as a result and the threshold set to take into account the error introduced.

**Claims 3-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Vynne in view of Schneider and Thomas and further in view of ISO/IEC specification.

*In reference to claim 3* wherein the property of a corresponding band or block in a previous frame constitutes said threshold.

Schneider does not expressly disclose the property of a corresponding band or block in a previous frame constitutes said threshold.

However the specification of the ISO discloses comparing a frame from a previously decoded frame (7.6.1).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to compare a block to a threshold as in the specification of the ISO in the system of Schneider. One of ordinary skill in the art would have been motivated to do this because this will help determine the motion compensation.

*In reference to claim 4* wherein the property of a neighboring band or block in a previous frame constitutes said threshold

Schneider does not expressly disclose the property of a neighboring band or block in a previous frame constitutes said threshold.

However the specification of the ISO discloses comparing a frame from a previously decoded frame (7.6.1).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to compare a block to a threshold as in the specification of the ISO in the system of Schneider. One of ordinary skill in the art would have been motivated to do this because this will help determine the motion compensation.

*In reference to claims 5-8*, wherein the bands or blocks are frequency bands of the frequency spectrum of the respective frame of the information signal.

Schneider discloses comparing the hash values and contains the intensity information for the histogram.

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to compare a the frequency spectrum of the respective frame. One of ordinary skill in the art would have been motivated to do this because this would show the difference in the content of the frames.

**Claims 14-21 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over the article by Schneider in view of Boles (US 5, 019, 899) and further in view of Thomas (5,229,768).

*In reference to claims 14 and 21* Schneider discloses a system to authenticate images presented a method performed by this system includes calculating a difference between the input block of hash words and a stored block of hash words in which the hash word found in step has the same position as the selected hash word in the input block (page 228 section 5.0 column 2

lines 6-21); repeating steps (a) to (c) for a further selected hash word until said difference is lower than a predetermined threshold (Fig. 8).

Schneider does not expressly disclose selecting a hash word of said input block of hash words; searching said hash word in the database.

Boles system for creating digital signatures form frames of selected video segments and storing them in databases (abstract). The system includes the steps of selecting a hash word of said input block of hash words (column 4 lines 34-35); searching said hash word in the database (column 4 lines 36-43). The signature is the equivalent of the hash as disclosed by the applicant in the applicant admitted prior art.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to keep the hash values in a database to search for the hash as in. One of ordinary skill in the art would have been motivated to do this because a database is a method of organizing and sorting and searching information in an orderly fashion.

Neither Schneider nor Boles discloses searching said hash word in a lookup table comprising potential hash words and a linked list of addresses pointing to the database containing stored blocks of hash words to find hash words stored in the database that correspond to said hash word.

Thomas discloses searching said hash word in a lookup table comprising potential hash words and a linked list of addresses pointing to the database containing stored blocks of hash words to find hash words stored in the database that correspond to said hash word.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use a lookup table as in Thomas in the system of Schneider. One of ordinary

skill in the art would have been motivated to do this because construction of a look-up table continuously adapts to the input data and therefore enhances performance.

*In reference to claim 15*, wherein the further selected hash word is another hash word of the input block of hash words (Fig. 8).

*In reference to claim 16*, wherein the further selected hash word is obtained by reversing a bit of the previously selected hash word (Fig. 3).

*In reference to claim 17*, further comprising the steps of receiving information which is indicative of the reliability of the bits of the selected hash word, and using said information to determine the bit to be reversed (Fig. 8 second level hash).

*In reference to claim 23* Schneider teaches calculating the difference between the derived hash signal and the stored hash signal (Fig. 3). Schneider also discloses deriving a hash signal from said information signal (Fig. 8).

However Schneider does not expressly disclose matching said hash signal with a hash signal identifying said information signal stored in a database.

Boles discloses matching said hash signal with a hash signal identifying said information signal stored in a database (column 4 lines 36-43).

*In reference to claim 24* Schneider does not disclose a system for receiving and/or recording at least a part of said multimedia signal, deriving a hash signal from said multimedia signal, sending said hash signal to a database for matching it with hash signals stored in said database.

Boles discloses a system for receiving and/or recording at least a part of said multimedia signal (Fig. 1 part 40), deriving a hash signal from said multimedia signal, sending said hash

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signal to a database for matching it with hash signals stored in said database (column 4 lines 21-35), and receiving from said database an identifier of the multimedia signal (column 4 lines 36-43).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to keep the hash values in a database to search for the hash as in. One of ordinary skill in the art would have been motivated to do this because a database is a method of organizing and sorting and searching information in a orderly fashion.

*In reference to claim 25*, wherein said steps of receiving and/or recording the multimedia signal, deriving and sending the hash signal, and receiving the identifier are performed by a mobile telephone device.

Although Boles does not disclose receiving the identifier are performed by a mobile telephone device, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use mobile telephone device. One of ordinary skill in the art would have been motivated to do this because the system of Boles discloses the use of processors and mobile telephones are processor devices.

**Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider in view of Boles and Thomas as in claim 14 and further in view of Eichstaedt et al (6,654,735 B1).

*In reference to claim 22* Boles discloses deriving a hash signal from said information signal (column 4 lines 21-35), and matching said hash signal with hash signals identifying stored in a database (column 4 lines 36-43).

Although Boles discloses the matching of a hash signal with hash signals identifying stored video in a database, Boles does not disclose websites stored in a database.

Eichstaedt discloses a system for automatically generating user interest profiles and delivering information to users (abstract). The system discloses storing web pages in a database (column 2 lines 16-18). Web pages are address for a resource on the internet

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to store Internet websites in a database as in Eichstaedt in the system of Boles. One of ordinary skill in the art would have been motivated to do this because databases are convenient and ordered methods of storing information.

*Allowable Subject Matter*

**Claims 18-20** are allowed.

*Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paula W. Klimach whose telephone number is (571) 272-3854. The examiner can normally be reached on Mon to Thr 9:30 a.m to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on (571) 272-3859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PWK  
Monday, April 03, 2006

  
HOSUK SONG  
PRIMARY EXAMINER